

**FY 2002/03 - 2007/08
REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM
(2002 RTIP)**

SECTION I

CONFORMITY REQUIREMENTS AND FINDINGS

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**FY 2002/03-2007/08
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SECTION I

CONFORMITY REQUIREMENTS AND FINDINGS

INTRODUCTION

The Southern California Association of Governments (SCAG), as the Metropolitan Planning Organization (MPO) for Southern California, is mandated to comply with federal and state transportation and air quality regulations.

Federal transportation and air quality regulations are outlined in the Transportation Equity Act for the 21st Century (TEA-21) and the Federal Clean Air Act (CAA). TEA-21 authorizes federal funding for highway, highway safety, transit, and other surface transportation programs. The CAA establishes air quality standards for various health-hazardous pollutants.

State of California requirements for air quality management are incorporated into the State Implementation Plans (SIPs) for those pollutants stipulated in the CAA. The SIPs set forth the goals and objectives for achieving CAA air quality standards. State of California requirements for transportation are incorporated in the Senate Bill 45 (SB 45) and other California codes.

STATE AND FEDERAL REQUIREMENTS

Federal Non-Attainment Areas

The Environmental Protection Agency (EPA) may make a federal “non-attainment area” designation to any area that has not met CAA health standards for one or more pollutants. A non-attainment area designation may require additional air quality controls for transportation plans, programs, and projects.

The California Air Resources Board (ARB) recommends the federal non-attainment area boundaries to EPA for final designations. Subsequently, the EPA finalizes and defines the boundaries of the federally designated non-attainment areas for each criteria pollutant (as defined below). In general, each federal non-attainment area should be in one air basin. However, in the SCAG region, one federal non-attainment area may cover portions of several air basins. In California, the ARB or state legislature defines the air basins.

State Implementation Plans (SIPs)

To comply with the CAA in achieving the National Ambient Air Quality Standards (NAAQS), the ARB develops SIPs for federal non-attainment areas. In California, SIP development is a joint effort of the local air agencies and ARB working with federal, state, and local agencies (including the MPOs). Local Air Quality Management Plans (AQMPs) are prepared in response to federal and state requirements. AQMPs are the basis for SIP development.

The SIP includes two important factors for transportation and air quality conformity analysis: emissions budgets and Transportation Control Measures (TCMs). Emissions budgets set an upper limit of emissions which transportation activities are permitted to emit. TCMs are strategies to reduce emissions from on-road mobile sources.

Federal Transportation Conformity Rule

The regulatory provisions for processing transportation plans, programs, and projects in the federal non-attainment and maintenance areas are identified in the Transportation Conformity Rule, under Title 23 U.S.C., the Federal Transit Act, and Section 176(c) of the 1990 CAA Amendment. The Transportation Conformity Rule also regulates conformity for the SIPs.

The first complete Transportation Conformity Rule was published in November 1993 and has been amended three times. The most recent Transportation Conformity Rule is found at 40 CFR parts 51 and 93 (August 15, 1997). Since its last publication, two court cases have amended the Transportation Conformity Rule:

- The U.S. Court of Appeals November 4, 1997 ruling in *Sierra Club v. EPA*, deleted the grace period for the non-attainment area designation. The new transportation conformity requirements apply to new non-attainment area designations.¹
- The U.S. Court of Appeals March 2, 1999 ruling in *EDF v. EPA*, mandated that submitted emissions budgets cannot be used for conformity determinations. Only emissions budgets approved or found adequate by the EPA are to be used for conformity determinations.

On January 18, 2001 the EPA and the United States Department of Transportation (USDOT) issued joint guidance on the use of the latest planning assumptions in conformity determinations. On May 3, 2002 the Federal Highway Administration California Division issued a letter making the use of the latest planning assumptions for conformity analysis effective as of January 1, 2003. This was due to the ARB commitment to update all current SIPs, including the new emission factor model (EMFAC) based on the latest vehicle data.² Therefore, the 2002 RTIP regional emissions analysis for conformity findings is based on the current EMFAC models (7F and 7G), which include the current vehicle data.

¹ Per the *Sierra Club v. EPA* ruling, Section 93.102(d) [the grace period...] of the August 1997 Transportation Conformity Rule was deleted.

² On April 26, 2002, the ARB submitted a letter to the federal agencies that documents this commitment.

REGIONAL TRANSPORTATION PLANNING PROCESSES

2002 Regional Transportation Improvements Programs (RTIP)

TEA-21 requires that SCAG develop a Regional Transportation Plan (RTP) for a 20-year minimum period and a Regional Transportation Improvement Program (RTIP) to implement the RTP. In non-attainment areas, the RTP and RTIP must comply with all federal requirements including the transportation conformity requirements of the EPA Transportation Conformity Rule. TEA-21 and the Transportation Conformity Rule require that conformity of the RTP and RTIP in non-attainment and maintenance areas be re-determined, at a minimum, every three years.

In the SCAG region, a biennial RTIP update is produced on an even-year cycle. This biennial RTIP includes significant changes that usually require a conformity analysis and finding. The standard biennial RTIP cycle is consistent with the State Transportation Improvement Program (STIP) cycle and the 2002 RTIP incorporates the SCAG portion of 2002 STIP for conformity analysis. The current operating RTIP expires on October 6, 2002.

The 2002 RTIP implements the current RTP.³ Upon approval by the federal agencies, the 2002 RTIP will become the current operating RTIP. There must be a new federally approved and conforming RTIP by October 6, 2002, which is when the Federal Statewide Transportation Improvement Program (FSTIP) expires.

The current operating 2001 RTIP was approved by the federal agencies (including its final conformity determination) on September 25, 2001. An amendment to the 2001 RTP and 2001 RTIP was federally approved on May 10, 2002.⁴ This amendment included three project changes to the 2001 RTP and 2001 RTIP:

1. In Los Angeles County, the addition of the Arbor Vitae Street/Interstate 405 Freeway interchange project (south half).
2. In Riverside County, revise the SR-79 widening to be six lanes between Domenigoni Parkway and Hunter Road.
3. In Ventura County, add an auxiliary lane in each direction on the US-101 between SR-23 and the county line (this change was made only to the 2001 RTP Amendment; it was not included in the 2001 RTIP Amendment, but is included in the 2002 RTIP).

³ The 2001 RTP was approved by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), including its conformity determination, on June 8, 2001, for all non-attainment areas, with the exception of the PM₁₀ areas in the San Bernardino County portion of the Mojave Desert Air Basin (MDAB) and the Coachella Valley portion of the Salton Sea Air Basin (SSAB), which were approved on August 3, 2001. An amendment to the 2001 RTP was federally approved on May 10, 2002.

⁴ The federal approval of the 2001 RTP and 2001 RTIP Amendment on May 10, 2002 does not change the regional conformity date of the 2001 RTIP (i.e., September 25, 2001).

CRITERIA POLLUTANTS AND AIR BASINS

Criteria Pollutants

Transportation activities, particularly motor vehicles (on-road mobile sources), are major causes of air pollution. Four criteria pollutants are subject to air quality conformity for both the RTP and RTIP, as shown in the table below.

| CRITERIA POLLUTANTS | | DESCRIPTION |
|---|------------------|---|
| Carbon Monoxide | CO | <ul style="list-style-type: none"> • Product of automobile exhaust. • Reduces flow of oxygen in the bloodstream. • Particularly dangerous to persons with heart disease. |
| Ozone | O ₃ | <ul style="list-style-type: none"> • Formed by the reaction between Volatile Organic Compounds (VOC) and Oxides of Nitrogen (NO_x) in presence of sunlight. • Negatively impacts the respiratory system. |
| Nitrogen Dioxide | NO ₂ | <ul style="list-style-type: none"> • Created under high pressure and temperature conditions in internal combustion engines. • Degrades visibility due to its brownish color. • Impacts the respiratory system. |
| Particulate matter less than 10 microns in size | PM ₁₀ | <ul style="list-style-type: none"> • Tiny particulates of dust and soot. • Cause irritation and damage to the respiratory system. |

Air Basins and Air Districts in the SCAG Region

Federal non-attainment areas are usually described by their air basin geographies. SCAG is a six-county region (i.e., Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) that contains four air basins that are administered by five air districts, as shown in the table below.

| AIR BASIN | AIR DISTRICTS | GEOGRAPHY |
|--|---|--|
| South Coast Air Basin (SCAB) | South Coast Air Quality Management District (SCAQMD) | Urbanized portions of Los Angeles, Riverside and San Bernardino counties; entire county of Orange |
| Ventura County portion of the South Central Coast Air Basin (SCCAB) | Ventura County Air Pollution Control District (VCAPCD) | Ventura County |
| Mojave Desert Air Basin (MDAB) | <ol style="list-style-type: none"> 1. Mojave Desert Air Quality Management District (MDAQMD): <ul style="list-style-type: none"> - Administers portions of the MDAB situated in San Bernardino County and eastern Riverside County (Riverside County portion is known as the Palo Verde Valley area) 2. South Coast Air Quality Management District (SCAQMD): <ul style="list-style-type: none"> - Administers the portion of MDAB in Riverside County situated between the SSAB and the Palo Verde Valley Area 3. Antelope Valley Air Quality Management District (AVAQMD)⁵: <ul style="list-style-type: none"> - Administers the Los Angeles County portion of the MDAB | Desert portions of Los Angeles, Riverside and San Bernardino counties; small portion is in Kern County (outside SCAG region) |
| Salton Sea Air Basin (SSAB) | <ol style="list-style-type: none"> 1. Imperial County Air Pollution Control District (ICAPCD): <ul style="list-style-type: none"> - Administers the Imperial County portion of the SSAB 2. South Coast Air Quality Management District (SCAQMD): <ul style="list-style-type: none"> - Administers the Riverside County portion of the SSAB situated between the SCAB and the MDAB. | Imperial County; central portion of Riverside County |

The boundaries of the air basins and air districts are illustrated in Exhibit A.

⁵ On January 1, 2002, California state law created the Antelope Valley Air Quality Management District (AVAQMD) as the successor agency to the Antelope Valley Air Pollution Control District (AVAPCD).

NON-ATTAINMENT AREA BOUNDARIES

Non-Attainment Areas and Timeframes

The boundaries of the federal non-attainment areas (and their respective attainment years for compliance) in the SCAG region are as follows:

- SCAB (excluding the Banning Pass Area)⁶ – The entire basin is a non-attainment area for the following pollutants: CO (2000); 1-hour Ozone (2010); NO₂ (1995); and PM₁₀ (2006).
- Ventura County portion of SCCAB – The entire county is a non-attainment area for 1-hour Ozone (2005).
- Antelope Valley portion of MDAB⁷ – The entire desert portion of Los Angeles County (known as Antelope Valley) is a non-attainment area for 1-hour Ozone (2007).
- San Bernardino County portion of MDAB⁸
 - With the exception of the northern and eastern portions, the County is a non-attainment area for 1-hour Ozone (2007).
 - Searles Valley (situated in the northwest part of the County) is a non-attainment area for PM₁₀ (1994).
 - San Bernardino County (excluding the Searles Valley area) within the MDAB is a non-attainment area for PM₁₀ (2000).
- Riverside County portion of SSAB⁹ – The entire Riverside County portion of SSAB (Coachella Valley – including the Banning Pass Area) is a non-attainment area for the following pollutants: 1-hour Ozone (2007); PM₁₀ (1995).

⁶ The SCAB, excluding the Banning Pass area, is designated by the EPA as a single Ozone non-attainment area. SCAG has requested that the federal non-attainment boundary be revised to be consistent with the state defined air basin boundary.

⁷ This federally designated Ozone non-attainment area covers three separate but contiguous areas: the Antelope Valley portion of the MDAB, the San Bernardino County portion of the MDAB, and the Coachella Valley portion of the SSAB (including Banning Pass).

⁸ *ibid.*

⁹ *ibid.*

Proposed Eight-Hour Ozone Non-Attainment Areas

An eight-hour Ozone non-attainment area is designated for an area where a high level of Ozone is measured for a minimum of eight hours per day. The following areas are the proposed federal 8-hour Ozone non-attainment areas:

- SCAB
- MDAB - Antelope Valley portion.
- MDAB - San Bernardino County portion
- SSAB - Coachella Valley portion.
- SSAB - Imperial County portion.
- SCCAB - Ventura County portion.

The boundaries of federal non-attainment areas are illustrated in Exhibit A.

The following are milestones for implementation of the 8-hour ozone standard (i.e., rulemaking, non-attainment area designations, SIP developments, and attainment years):

- EPA plans to complete the proposed rulemaking on the implementation approach in summer 2002 (subject to a public review and comment period) and to finalize the Rule in mid-2003.
- During 2003, EPA will ask States and Tribes to update the recommended non-attainment area designations. EPA wants to promulgate the non-attainment area designations in mid-2004.
- The State Implementation Plans (SIPs) will be due in the 2007-2008 time frame.
- The attainment dates will range from 2007 to at least 2021. (The SCAB attainment date may be in 2019 or later.)

SIP STATUS AND CONFORMITY

Applicable Emissions Budgets¹⁰

The 2002 RTIP must conform to the applicable SIPs (emissions budgets and the Transportation Control Measures [TCMs]). The March 1999 court ruling mandated that submitted budgets no longer be used for conformity findings. Only those emissions budgets approved or found adequate for a conformity determination by EPA can be used for the regional emissions analysis. The TCMs are those identified in the applicable SIPs. For the 2002 RTIP conformity determination, the applicable emissions budgets and TCMs are established in the following SIPs:

¹⁰ An ARB memorandum to SCAG (July 18, 2000) outlines the current applicable emissions budgets in the SCAG region. This memo can be viewed/downloaded from the “2002 Regional Transportation Improvement Program” link at the SCAG website (www.scag.ca.gov).

➤ **Ozone SIPs:**

The emissions budgets established in 1994 Ozone (1-hour standard) SIPs for the Antelope Valley portion of the MDAB, the San Bernardino County portion of the MDAB, the Coachella Valley portion of the SSAB, and the Ventura County portion of the SCCAB function as the applicable emissions budgets for conformity analysis. The emissions budgets established in the 1997 Ozone SIP (1-hour standard), as amended in 1999, for the SCAB function as the applicable emissions budgets for conformity analysis.

➤ **Nitrogen Dioxide (NO₂) SIP:**

The emissions budgets established in the 1997 NO₂ SIP (Maintenance Plan) for the SCAB function as the applicable emissions budgets for conformity analysis.

Emissions Budgets Tables

A summary of the applicable emissions budgets by pollutant by years of analysis (milestone, attainment, and planning horizon years) are presented in the following tables.

| Ozone Emissions Budgets (tons/day) Summer Temperatures SCAB (Excluding Banning Pass) | | | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Ozone Precursors | 1999 | 2002 | 2005 | 2008 | 2010 | 2020 | 2025 |
| ROG (VOC) | 354.00 | 273.103 | 206.034 | 145.345 | 80.733 | 80.733 | 80.733 |
| NO _x | 526.80 | 447.119 | 369.122 | 310.078 | 277.766 | 277.776 | 277.776 |

Established in SCAQMD 1997 AQMP/SIP (amended in 1999); Emissions budgets generated using EMFAC 7G

| NO₂ Emissions Budgets (tons/day) Winter Temperatures SCAB (Excluding Banning Pass) | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|
| NO₂ Precursor | 1994 | 2000 | 2010 | 2020 | 2025 |
| NO _x | 657.30 | 657.30 | 657.30 | 657.30 | 657.30 |

Established in SCAQMD 1997 AQMP/SIP (Maintenance Plan); Emissions budgets generated using EMFAC 7G

| Ozone Emissions Budgets (tons/day) Summer Temperatures Ventura County - SCCAB | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Ozone Precursors | 1999 | 2002 | 2005 | 2010 | 2020 | 2025 |
| ROG (VOC) | 16.20 | 12.47 | 9.82 | 9.82 | 9.82 | 9.82 |
| NO _x | 27.04 | 24.36 | 21.33 | 21.33 | 21.33 | 21.33 |

Established in VCAPCD's 1994 AQMP/SIP; Emissions budgets generated using EMFAC 7F

| Ozone Emissions Budgets (tons/day) Summer Temperatures MDAB / SSAB (Southeast Desert Modified Area) | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Ozone Precursors | 1999 | 2002 | 2005 | 2007 | 2010 | 2020 | 2025 |
| ROG (VOC) | 36.25 | 31.07 | 26.45 | 23.31 | 23.31 | 23.31 | 23.31 |
| NO _x | 70.03 | 65.79 | 57.06 | 54.82 | 54.82 | 54.82 | 54.82 |

Established in MDAQMD & SCAQMD's 1994 AQMPs/SIPs; Emissions budgets generated using EMFAC 7F

Applicable TCMs

In the SCAG region, two air basins are required to analyze TCMs for conformity purposes (i.e., analysis of the timely implementation of TCMs): the SCAB (excluding Banning Pass) and the Ventura County portion of the SCCAB. The applicable TCMs for each air basin are outlined in the Ozone SIPs as follows:

1. SCAB (excluding Banning Pass):
The 1997 Ozone AQMP/SIP establishes the TCM categories for the SCAB.¹¹
2. Ventura County portion of the SCCAB:
The 1994 Ozone AQMP/SIP establishes the TCM categories for the Ventura County portion of the SCCAB.

There are no applicable TCMs in any other federal non-attainment areas in the SCAG region. For analysis on the timely implementation of TCMs, see the Timely Implementation of TCMs section of this volume.

Submitted SIPs

The ARB has submitted the SIPs for all other federal non-attainment areas in the SCAG region to the EPA. With the exception of the Imperial County portion of the SSAB, the following SIPs contain emissions budgets for the on-road mobile sources, which require EPA's approval or adequacy finding:

- 1997 SIPs (CO and PM₁₀) for the SCAB¹²
- 1997 PM₁₀ SIP for the SSAB (Coachella Valley)¹³
- 1995 PM₁₀ SIP for the MDAB (San Bernardino County – excluding Searles Valley)
- 1996 PM₁₀ SIP for the MDAB (Searles Valley)

¹¹ The 1997 Ozone SIP (as amended in 1999) was approved on April 10, 2000. The 1994 Ozone SIP was the prior applicable SIP and the TCM-01 categories in both documents are consistent.

¹² The SCAQMD and the ARB are currently in the process of resubmitting the 1997 PM₁₀ SIPs to the EPA.

¹³ *ibid.*

This area has been under conformity suspension since April 23, 1999, when the USDOT informed SCAG of the impact of the March 2, 1999 court ruling that the submitted budgets cannot be used for conformity determinations. Also, there are no projects or programs proposed for transportation improvements by the 2001 RTP Update or the 2002 RTIP for this area.

➤ **SSAB (Imperial County)**

The Imperial County portion of SSAB is a designated non-attainment area for PM₁₀ and a transitional Ozone area. In October 1993, the ARB submitted a PM₁₀ SIP to the EPA. The SIP was the result of a joint effort by the ICAPCD and the ARB. Due to the deferment of the attainment demonstration, the PM₁₀ SIP has neither emissions budgets for on-road mobile sources nor transportation control measures. As of the date of this analysis, EPA has not taken any action on the submitted PM₁₀ SIP.

There is no Ozone air quality attainment plan for Imperial County and, therefore, there are no emissions budgets or TCMs. The EPA Transportation Conformity Rule requires that SCAG make a conformity determination of the 2002 RTIP in the non-attainment areas of Imperial County. The SCAG regional emissions analysis for the conformity determinations in Imperial County is based on build/no-build tests of emissions for both PM₁₀ and ozone pollutants.

The ARB submitted a letter to the federal agencies on April 26, 2002 in which they committed to a schedule to update all SIPs in the SCAG region during 2003.

CONFORMITY ANALYSIS AND FINDINGS

Required Transportation Conformity Analysis

Under the EPA's Transportation Conformity Rule requirements, SCAG's 2002 RTIP needs to pass five tests:

1. Consistency with SCAG's RTP
(Section 450.324 of the USDOT – Metropolitan Planning Regulations)
2. Regional Emissions
(Sections 93.109, 93.118, and 93.119)
3. Timely Implementation of TCMs
(Section 93.113)
4. Financial Constraint
(Section 93.108)
5. Interagency Consultation and Public Involvement
(Sections 93.105 and 93.112)

Regional Emissions Analysis

EPA's Transportation Conformity Rule requires that the 2002 RTIP regional emissions be consistent with the motor vehicle emissions budgets in the applicable SIPs (Section 93.118). Consistency with emissions budgets must be demonstrated for each year that the applicable emissions budgets are established. Additionally, the 2002 RTIP regional emissions must be analyzed for the planning horizon year and for all identified milestone years (any two subsequent years that are being analyzed should not be more than ten years apart).

Summary of the 2002 RTIP Regional Emissions Analysis

As mandated by the Transportation Conformity Rule, to pass a regional emissions test for a conformity finding, the test must meet one of the following three requirements:

1. Budget test: The regional emissions must be equal or less than the emissions budgets.
2. PM₁₀ build/no-build test: The build scenario's emissions must be less than the no-build scenario's emissions.¹⁴
3. Ozone or CO build/no-build test: The build scenario's emissions must be less than the no-build scenario's emissions and the future year emissions must be less than the 1990 base year emissions.

SCAG's regional emissions analysis for the 2002 RTIP covers more than 20 years (the planning horizon year is 2025). It includes all projects programmed in the six-year RTIP and those included in the federally approved and conforming 2001 RTP, including the 2001 RTP Amendment.

SCAG modeling methodologies and regional emissions analyses are elaborated on in the Modeling Summary section of this document.

A summary of the SCAG-produced regional emissions analysis is tabulated in the following tables, which are organized by air basin.

Ozone Emissions Analysis (tons/day)
Summer Temperatures
SCAB (Excluding Banning Pass)

| Ozone Precursors | | 2002 | 2005 | 2008 | 2010 | 2020 | 2025 |
|-------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| ROG (VOC) | Budget | 273.103 | 206.034 | 145.354 | 80.733 | 80.733 | 80.733 |
| | 2002 RTIP | 267.101 | 198.723 | 143.467 | 80.128 | 48.306 | 44.903 |
| NO _x | Budget | 447.119 | 369.122 | 310.078 | 277.766 | 277.766 | 277.766 |
| | 2002 RTIP | 444.989 | 357.991 | 278.293 | 224.515 | 204.017 | 209.537 |

Regional emissions budget generated using EMFAC 7G. To pass, RTIP emissions must be equal to or less than the budget.

¹⁴ The build scenario means implementing the RTIP or Plan and the no-build scenario means not completing the RTIP or Plan.

NO₂ Emissions Analysis (tons/day)

Winter Temperatures

SCAB (Excluding Banning Pass)

| NO₂ Precursor | | 1994 | 2000 | 2010 | 2020 | 2025 |
|---------------------------------|-----------|-------------|-------------|-------------|-------------|-------------|
| NO _x | Budget | 657.30 | 657.30 | 657.30 | 657.30 | 657.30 |
| | 2002 RTIP | --- | --- | 377.958 | 349.712 | 358.796 |

Regional emissions generated using EMFAC 7G. To pass, RTIP emissions must be equal to or less than the budget.

CO (tons/day)

Winter Temperatures

SCAB (Excluding Banning Pass)

| CO | 1990 | 2000 | 2005 | 2010 | 2020 | 2025 |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| Build | --- | --- | 2,732.13 | 1,843.12 | 1,458.38 | 1,476.33 |
| No-build | 7,380.76 | 3,621.14 | 2,754.29 | 1,887.43 | 1,543.59 | 1,570.94 |

Regional emissions generated using EMFAC 7G. To pass, build emissions must be less than no-build and 1990.

PM₁₀ (tons/day)

Annual Average Temperatures

SCAB (Excluding Banning Pass)

| PM₁₀ Precursor | 1990 (base year) | 2000 | 2003 | 2006 | 2010 | 2020 | 2025 |
|----------------------------------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| ROG (VOC) | 861.38 | 365.50 | 299.48 | 233.46 | 145.43 | 90.26 | 84.49 |
| NO _x | 889.73 | 560.70 | 503.19 | 445.62 | 368.86 | 342.61 | 351.36 |

To pass, the future year emissions must be less than 1990 (base year).

| Primary Particulate Matter | 2000 | 2003 | 2006 | 2010 | 2020 | 2025 |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Build | --- | 207.160 | 215.568 | 226.918 | 253.676 | 269.184 |
| No-build | 199.561 | 209.398 | 219.235 | 232.351 | 265.390 | 280.869 |

Regional emissions generated using EMFAC 7G. To pass, build emissions must be less than no-build and 1990. The roadway construction related PM₁₀ emissions were included in the regional emissions analysis.

Ozone (tons/day)

Summer Temperatures

SCCAB - Ventura County

| Ozone Precursors | | 1999 | 2002 | 2005 | 2010 | 2020 | 2025 |
|-------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| ROG (VOC) | Budget | 16.20 | 12.470 | 9.820 | 9.820 | 9.820 | 9.820 |
| | 2002 RTIP | --- | 11.653 | 9.497 | 5.735 | 4.525 | 2.965 |
| NO _x | Budget | 27.04 | 24.360 | 21.330 | 21.330 | 21.330 | 21.330 |
| | 2002 RTIP | --- | 22.807 | 19.084 | 13.646 | 13.810 | 13.379 |

Regional emissions generated using EMFAC 7F. To pass, RTIP emissions must be equal to or less than the budget.

PM₁₀ (tons/day)

Annual Average Temperatures

MDAB - San Bernardino County (Excluding Searles Valley)

| PM₁₀ | 2005 | 2010 | 2020 | 2025 |
|------------------------|-------------|-------------|-------------|-------------|
| Build | 14.437 | 16.376 | 20.137 | 22.110 |
| No-build | 15.544 | 17.257 | 21.493 | 23.415 |

Regional emissions generated using EMFAC 7F. To pass, build emissions must be less than no-build and 1990. The roadway construction related PM₁₀ emissions were included in the regional emissions analysis.

Ozone (tons/day)
Summer Temperatures
MDAB/SSAB*
(Southeast Desert Modified Area)

| Ozone Precursors | | 2002 | 2005 | 2007 | 2010 | 2020 | 2025 |
|-------------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| ROG | Budget | 31.070 | 26.450 | 23.310 | 23.310 | 23.310 | 23.310 |
| | 2002 RTIP | 19.494 | 16.230 | 13.769 | 10.566 | 9.707 | 7.119 |
| NO _x | Budget | 65.790 | 57.060 | 54.820 | 54.820 | 54.820 | 54.820 |
| | 2002 RTIP | 47.935 | 40.192 | 35.355 | 28.449 | 34.182 | 34.712 |

Regional emissions generated using EMFAC 7F. To pass, RTIP emissions must be equal to or less than the budget.

***Note:** This federally designated Ozone non-attainment area covers three separate but contiguous areas: the Antelope Valley portion of MDAB, the San Bernardino County portion of MDAB, and the Coachella Valley (including Banning Pass) portion of SSAB. The conformity analyses for the NO_x and ROG are based on comparing SCAG's regional transportation emissions with the combined budgets of the three parts. The Coachella Valley and Antelope Valley emissions budgets are reflected in the South Coast Air Quality Management District's 1994 AQMPs/SIPs and the San Bernardino County emissions budgets are reflected in the Mojave Desert Air Quality Management District's 1994 AQMP/SIP.

PM₁₀ (tons/day)
Annual Average Temperatures
SSAB - Riverside County (Coachella Valley Including Banning Pass)

| PM₁₀ | 2003 | 2006 | 2010 | 2020 | 2025 |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| Build | 9.186 | 10.028 | 11.151 | 15.807 | 17.632 |
| No-build | 9.451 | 10.558 | 12.034 | 16.861 | 18.674 |

Regional emissions generated using EMFAC 7F. To pass, build emissions must be less than no-build. The roadway construction related PM₁₀ emissions were included in the regional emissions analysis.

Ozone (tons/day)
Summer Temperatures
SSAB - Imperial County

| Ozone Precursors | | 2000 | 2005 | 2010 | 2020 | 2025 |
|-------------------------|----------|-------------|-------------|-------------|-------------|-------------|
| ROG | Build | --- | 6.774 | 4.864 | 4.038 | 4.265 |
| | No-build | --- | 6.825 | 4.966 | 4.145 | 4.444 |
| NO _x | Build | --- | 15.719 | 14.644 | 16.763 | 17.913 |
| | No-build | --- | 15.819 | 14.843 | 16.960 | 18.235 |

Regional emissions generated using EMFAC 7F. To pass, build emissions must be less than the 1990 base year or the no-build.

PM₁₀ (tons/day)
Annual Average Temperatures
SSAB - Imperial County

| PM₁₀ | 2000 | 2005 | 2010 | 2020 | 2025 |
|------------------------|-------------|-------------|-------------|-------------|-------------|
| Build | --- | 8.220 | 9.358 | 11.918 | 13.560 |
| No-build | --- | 8.436 | 9.791 | 13.072 | 14.931 |

Regional emissions generated using EMFAC 7F. To pass, build emissions must be less than no-build. The roadway construction related PM₁₀ emissions were included in the regional emissions analysis.

Searles Valley Area

The Searles Valley planning area is situated in the northwest part of San Bernardino County and is not a populated area. The area is designated as a federal non-attainment area for PM₁₀. This area is part of the MDAB.

There are no proposed projects or programs in the 2001 RTP (including the 2001 RTP Amendment) for transportation improvements for this area, therefore, no projects or programs are listed in the 2002 RTIP. The population growth for this area is minor during the next 25 years.

Since the U.S. Court of Appeals March 2, 1999 ruling invalidated the use of submitted emissions budgets for conformity findings, the Searles Valley area has been under conformity suspension. The PM₁₀ final Attainment Demonstration and Maintenance Plan (SIP) was submitted to the EPA by the ARB in July 1996. The SIP requires additional work before it can be determined adequate for conformity use by the EPA.

Use of Latest Planning Assumptions in Conformity Determinations

Beginning January 1, 2003, any new regional emissions analysis for a conformity determination must be based on the new SIPs (emissions budgets), using the new EMFAC model which uses the latest vehicle data (i.e., vehicle fleet mix and age distribution data). This is due to the existing marginal gap between the current emissions budgets and the regional emissions. Conformity determinations can be based on the current EMFAC models (7F and 7G) until December 31, 2002.

Conformity Findings

SCAG has determined the following conformity findings for the 2002 RTIP, per the required federal tests:

1. Consistency with 2001 RTP Test

- SCAG's 2002 RTIP (project listing) is consistent with the 2001 RTP (policies, programs and projects), including the 2001 RTP Amendment.
- The 2001 RTP is being incrementally implemented through the RTIP. SCAG has analyzed and is monitoring the programming in the RTIP to ensure that the investment targets identified in the 2001 RTP are met. In addition, SCAG monitors investments, regardless of funding sources, which were included in the RTP baseline for all project implementers (i.e., County Transportation Commissions, Caltrans, cities, county governments, transit operators, and other agencies), for the RTP transportation investment strategies, such as highway, transit, and TCM projects.

2. Regional Emissions Test

- SCAG's 2002 RTIP regional emissions for Ozone precursors are consistent with all applicable emissions budgets for all milestone, attainment, and planning horizon years for the following areas:
 - SCAB (excluding Banning Pass): the 1997 Ozone SIP (amended in 1999).
 - SCCAB (Ventura County): the 1994 Ozone SIP.
 - MDAB (Antelope Valley and San Bernardino County) / SSAB (Coachella Valley – including Banning Pass): the 1994 Ozone SIPs.
- SCAG's 2002 RTIP regional emissions (build scenario) for Ozone in the Imperial County portion of the SSAB are less than the no-build emissions.
- SCAG's 2002 RTIP regional emissions for the NO₂ precursor in the SCAB (excluding Banning Pass) are consistent with the applicable emissions budgets for all milestone, attainment, and planning horizon years.
- SCAG's 2002 RTIP regional emissions for CO in the SCAB (excluding Banning Pass) are less than no-build emissions and the future years are less than the 1990 base year emissions for all milestone, attainment, and planning horizon years.
- SCAG's 2002 RTIP regional emissions for the PM₁₀ precursors in the SCAB (excluding Banning Pass) are less than no-build emissions for all milestone, attainment, and planning horizon years. The roadway construction-related PM₁₀ emissions were included in the regional emissions analysis.
- SCAG's 2002 RTIP regional emissions for PM₁₀ are less than the no-build emissions for the following areas¹⁵:
 - SSAB (Imperial County).
 - SSAB (Coachella Valley – including Banning Pass).
 - MDAB (San Bernardino County – excluding Searles Valley).

3. Financial Constraint Test

- All projects listed in the 2002 RTIP are financially constrained for all fiscal years.

4. Timely Implementation of TCMs Test

- The TCM-01 project categories listed in the 1997 Ozone SIP/AQMP (amended in 1999) for the SCAB are given funding priority and are on schedule for implementation.

¹⁵ For the SSAB (Coachella Valley) and the MDAB, roadway construction-related emissions were included in the regional emissions analysis.

- The TCM strategies listed in the 1994 Ozone SIP/AQMP for the VC/SCCAB are given funding priority and are on schedule for implementation.

5. Interagency Consultation and Public Involvement Test

- The 2002 RTIP and its associated transportation conformity analysis and findings comply with this federal requirement.
- SCAG engaged in a proactive and extensive interagency consultation and public participation process during the development of the 2002 RTIP.
- SCAG provided reasonable opportunity for consultation with local and state air quality agencies, local and state transportation agencies, USDOT and EPA, and transit operators.
- The Transportation Conformity Working Group, the Modeling Task Force and the Regional Transportation Agencies Coalition (RTAC) functioned as part of the interagency consultation on all related matters.
- The Draft 2002 RTIP was subject to a 30-day public review period. SCAG has provided responses to the written comments received during this time. Seven public hearings were held on the Draft 2002 RTIP throughout the SCAG region. The Draft 2002 RTIP was available at the SCAG offices, on the SCAG website at www.scag.ca.gov, and at 47 libraries throughout the six-county region. The Final 2002 RTIP is also available at these locations.

ROADWAY CONSTRUCTION-RELATED PM₁₀ EMISSIONS ANALYSIS

PM₁₀ Emissions Analysis Requirements

Section 93.122(d)(2) of the EPA Transportation Conformity Rule requires that in PM₁₀ non-attainment and maintenance areas (for which the SIPs identify construction-related fugitive dust as a contributor to the area problem), the RTP and RTIP should conduct a roadway construction-related fugitive PM₁₀ emissions analysis. In the SCAG region, there are five PM₁₀ non-attainment areas:

1. SCAB (excluding Banning Pass)
2. The Coachella Valley portion of SSAB (including Banning Pass)
3. The San Bernardino County portion of the MDAB (excluding Searles Valley)
4. The Searles Valley portion of MDAB
5. The Imperial County portion of SSAB

Of the above outlined non-attainment areas only the first three areas are subject to the Transportation Conformity Rule PM₁₀ emissions analysis requirements. However, at the present time, there are no applicable PM₁₀ SIPs for these three areas. The following sections describe the method used in each of the submitted Air Quality Management Plan (AQMPs)/SIPs and the project-level PM₁₀ analysis currently in place regarding the construction-related PM₁₀ emissions.

Submitted AQMPs/SIP and the Associated Methods

The ARB submitted PM₁₀ SIPs to the EPA in February 1997 for the SCAB and the Coachella Valley portion of the SSAB, and in July 1997 for the San Bernardino County portion of the MDAB. The EPA has not approved these PM₁₀ SIPs. In these three submitted PM₁₀ AQMPs/SIPs, the roadway construction-related PM₁₀ emissions are constrained within the area source emissions inventory, not in the on-road mobile source inventory. The methods used in the development of each AQMP/SIP for estimating the roadway construction-related fugitive dust emissions are discussed below.

SCAB and Coachella Valley portion of SSAB:

The SCAQMD administers both the SCAB and the Coachella Valley portion of the SSAB. The SCAQMD utilized the ARB's methodology to estimate fugitive dust emissions resulting from all construction activities. The SCAQMD used the 1993 emissions as the base year and construction employment as a factor to estimate the growth of the construction-related PM₁₀ for the future years. The air district used SCAG's construction employment growth factors for its projections in the SCAB and the Coachella Valley portion of the SSAB.¹⁶

The SCAQMD has adopted Rule 403 – Fugitive Dust to reduce the amount of particulate matter entrained in the ambient air as the result of man-made fugitive dust sources in the SCAB. Rule 403 is applicable to any activity or man-made condition capable of generating fugitive dust.

The SCAQMD had adopted Rule 403.1 – Wind Entrainment of Fugitive Dust to reduce and prevent the amount of fine particulate matter (PM₁₀) entrained in the ambient air by high winds action on anthropogenic (man-made) fugitive dust sources in the Coachella Valley area. Rule 403.1 is applicable to any activity or man-made condition capable of generating fugitive dust, except unpaved dust, when wind speeds exceed 25 miles per hour (mph).

San Bernardino County portion of MDAB (excluding Searles Valley):

The Mojave Desert Air Quality Management District (MDAQMD) administers both the San Bernardino County portion and the Riverside portion of the MDAB. Roadway construction-related PM₁₀ emissions are reflected in the MDAQMD's Final Mojave Desert Planning Area – Federal PM₁₀ Attainment Plan (dated July 31, 1995).

The MDAQMD utilized ARB's methodology to estimate fugitive dust emissions resulting from roadway construction activities. The uncontrolled estimation methodology is equivalent to ARB's area source methodology, with the exception of city and county roadway construction activity, for which local information was used to estimate fugitive dust. Zero growth was assumed for construction of freeways and highways between 1998 and 2000. All roadway

¹⁶ The ARB's methodology (Section 7.8 – Road Construction Dust [updated August 1997]), can be viewed/downloaded from the "2002 Regional Transportation Improvement Program" link at the SCAG website (www.scag.ca.gov).

construction-related PM₁₀ emissions were based on local and county road growth. There is no information on the roadway construction-related PM₁₀ beyond the year 2000.

On July 22, 1996, the MDAQMD Board adopted Rule 403.2 – Fugitive Dust Control for the Mojave Desert Planning Area to ensure that the NAAQS for PM₁₀ will not be exceeded due to anthropogenic sources of fugitive dust. Rule 403.2 is applicable to construction/demolition activity, heavy traveled and publicly maintained unpaved roads, weed suppression activity, limestone processing activity, and activities on Bureau of Land Management (BLM) land.

SCAG's Method for Estimating PM₁₀ Construction-related Emissions

In the absence of applicable SIPs (construction-related fugitive dust emissions budgets), SCAG used the ARB methodology and the new roadway projects (lane miles) incorporated into the 2001 RTP and RTIP to estimate the respective fugitive dust (PM₁₀) for the analysis years for the SCAB, the Coachella Valley portion of the SSAB, and the San Bernardino County portion of the MDAB.¹⁷ For the 2001 RTIP, the professional services of Sierra Research (consulting firm) were retained to complete the roadway construction-related PM₁₀ emissions analysis for the subject areas.¹⁸

Project-level PM₁₀ Analysis

Under federal regulations, transportation projects located in federally designated PM₁₀ non-attainment or maintenance areas should be analyzed for project-level PM₁₀ conformity. Additionally, the roadway and transit-way projects subject to the National Environmental Policy Act (NEPA) requirements should address PM₁₀ through the Environmental Impact Study (EIS) process.

In California, all regionally significant projects are subject to compliance with the State requirements (i.e., California Environmental Quality Act) through the Environmental Impact Report (EIR), including the emissions analysis for project-level PM₁₀ analysis.

Unpaved Roads

The emissions reduction benefits from reducing unpaved roads are included in the PM₁₀ regional emissions analysis for the conformity finding of the San Bernardino County portion of the MDAB and the Coachella Valley portion of the SSAB. In general, the unpaved roads forecast is on a downward trend.

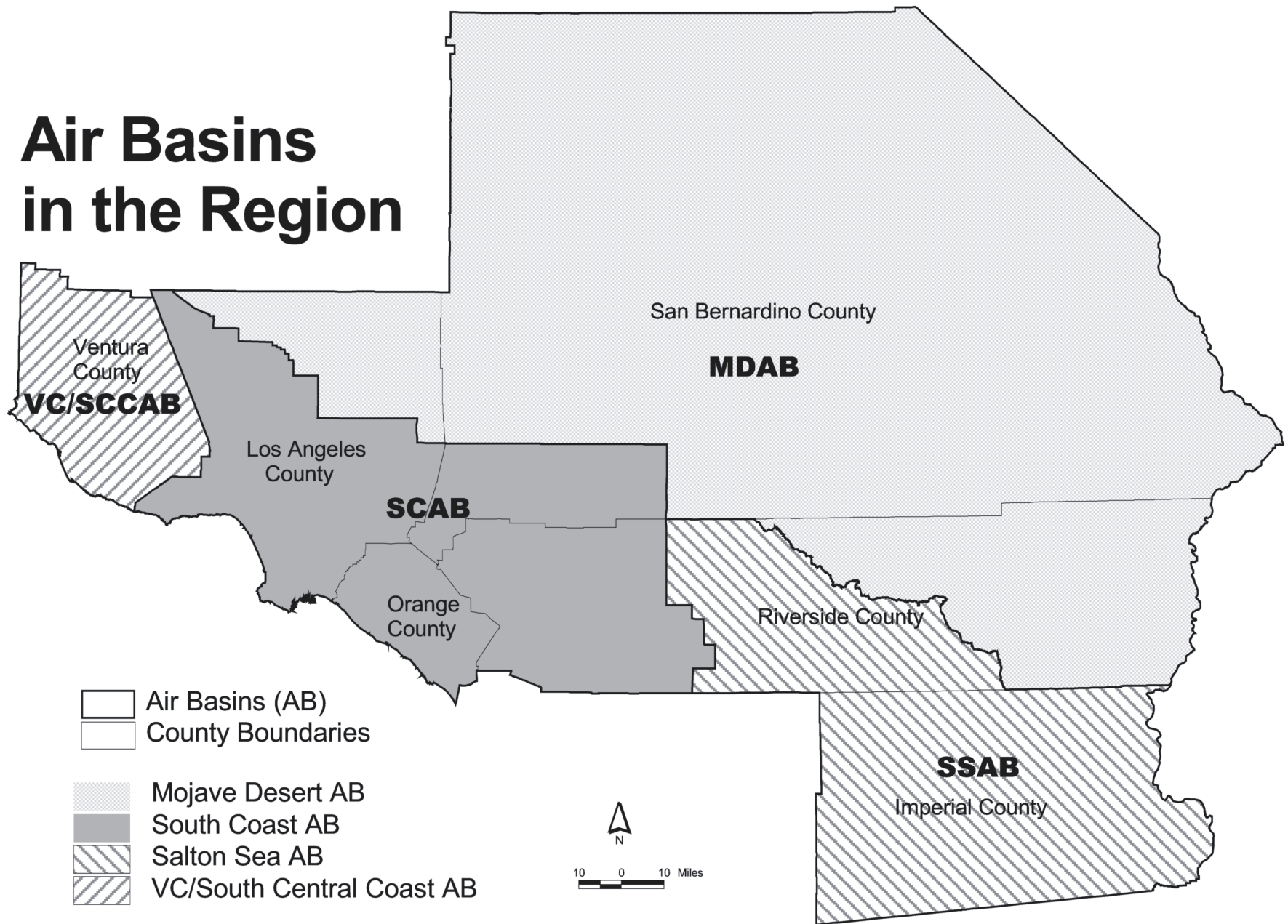
¹⁷ *ibid* (page I-17).

¹⁸ Memorandum to SCAG (August 9, 2001) from Sierra Research provides the final analysis of PM₁₀ emissions from road construction and unpaved road paving. This memo, in addition to related correspondence, can be viewed/downloaded from the “2002 Regional Transportation Improvement Program” link at the SCAG website (www.scag.ca.gov).

EXHIBIT A: MAPs

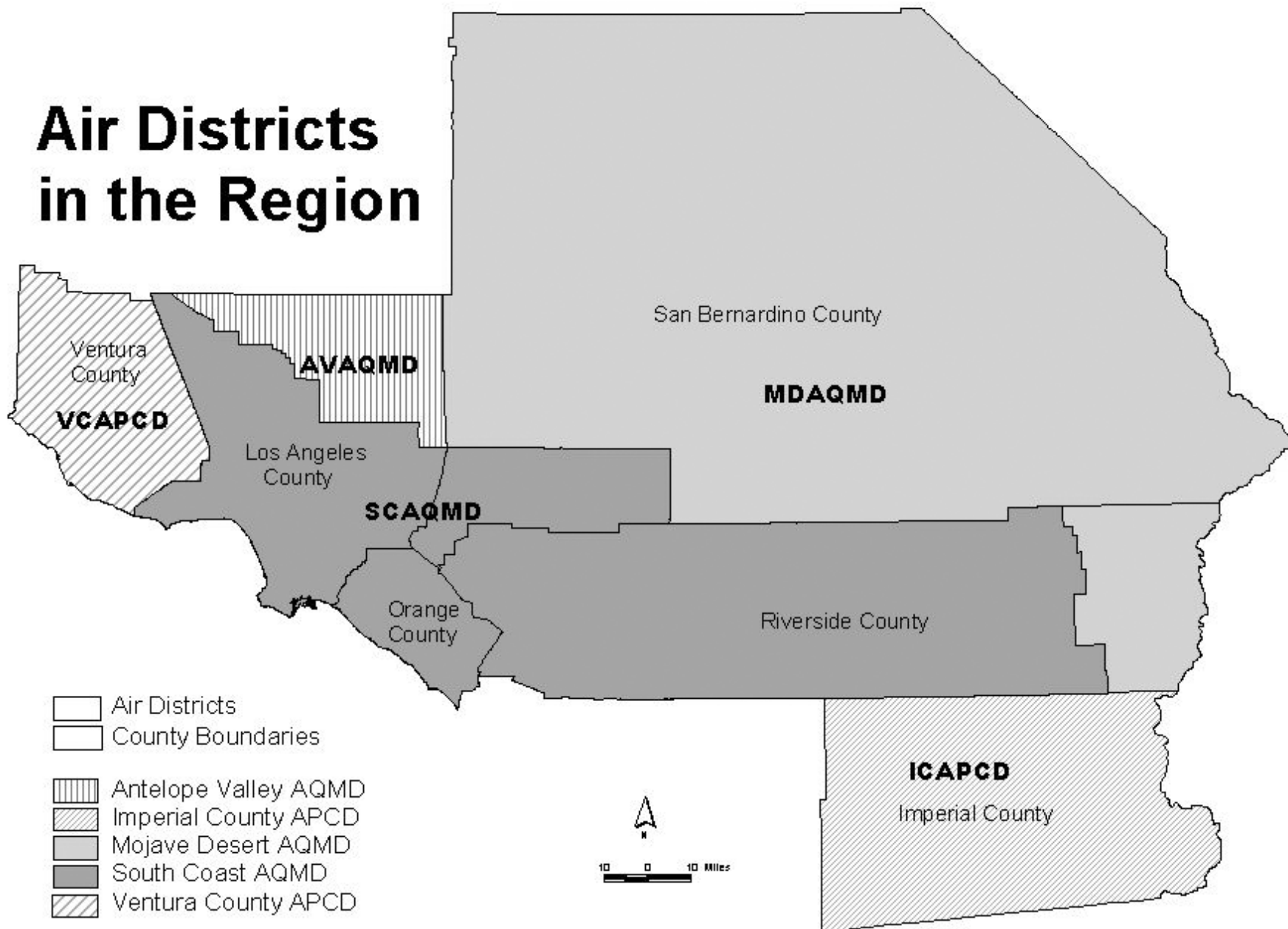
- Air Basins
- Air Districts
- Federal Non-attainment Areas
(Ozone, PM₁₀, CO, NO₂)

Air Basins in the Region



Source: Cal Air Resources Board and Air Districts

Air Districts in the Region



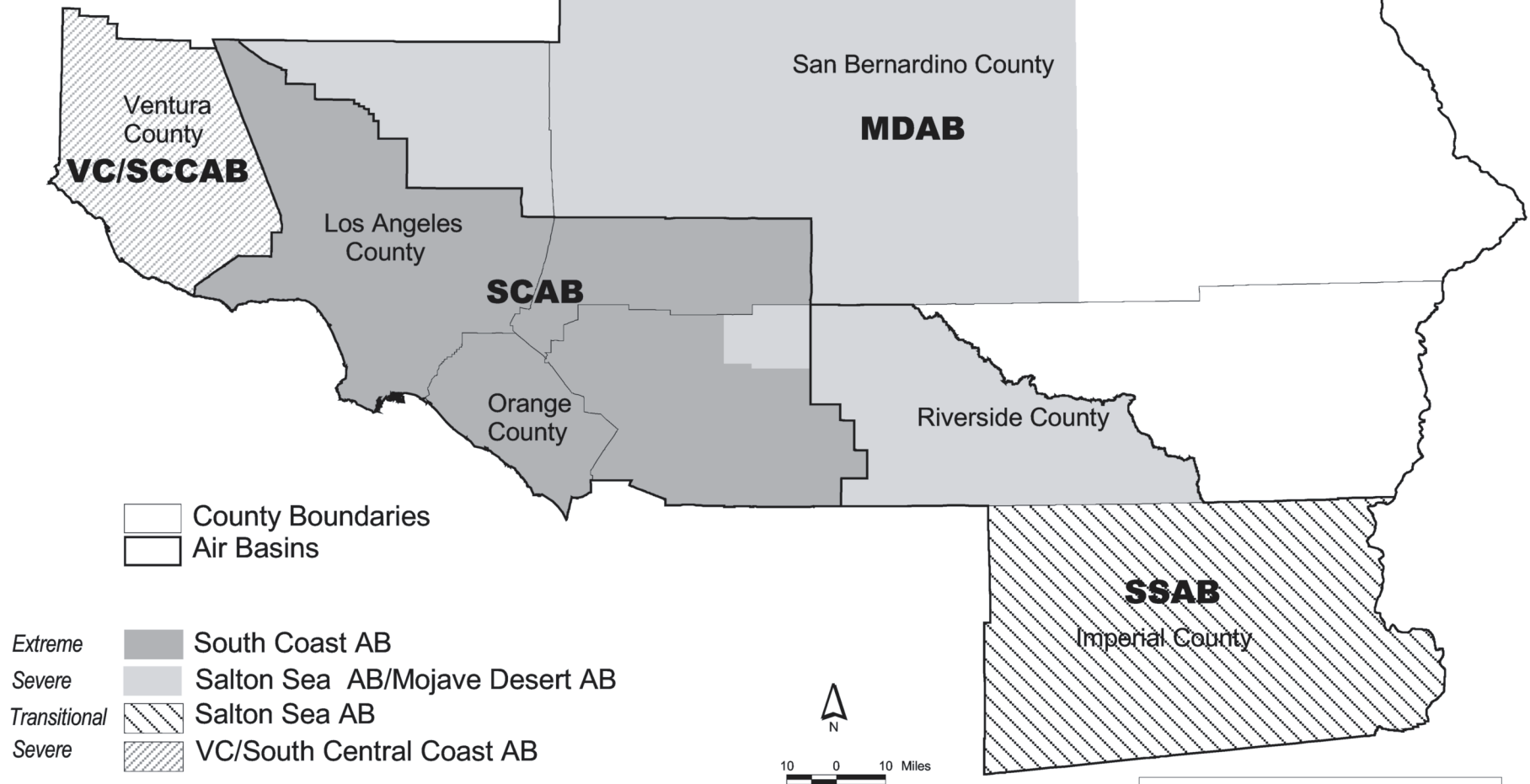
Source: Cal Air Resources Board and Air Districts

APCD: Air Pollution Control District
AQMD: Air Quality Management District



Federal Non-attainment Areas in the Region

Ozone
(1-Hr. Standard)

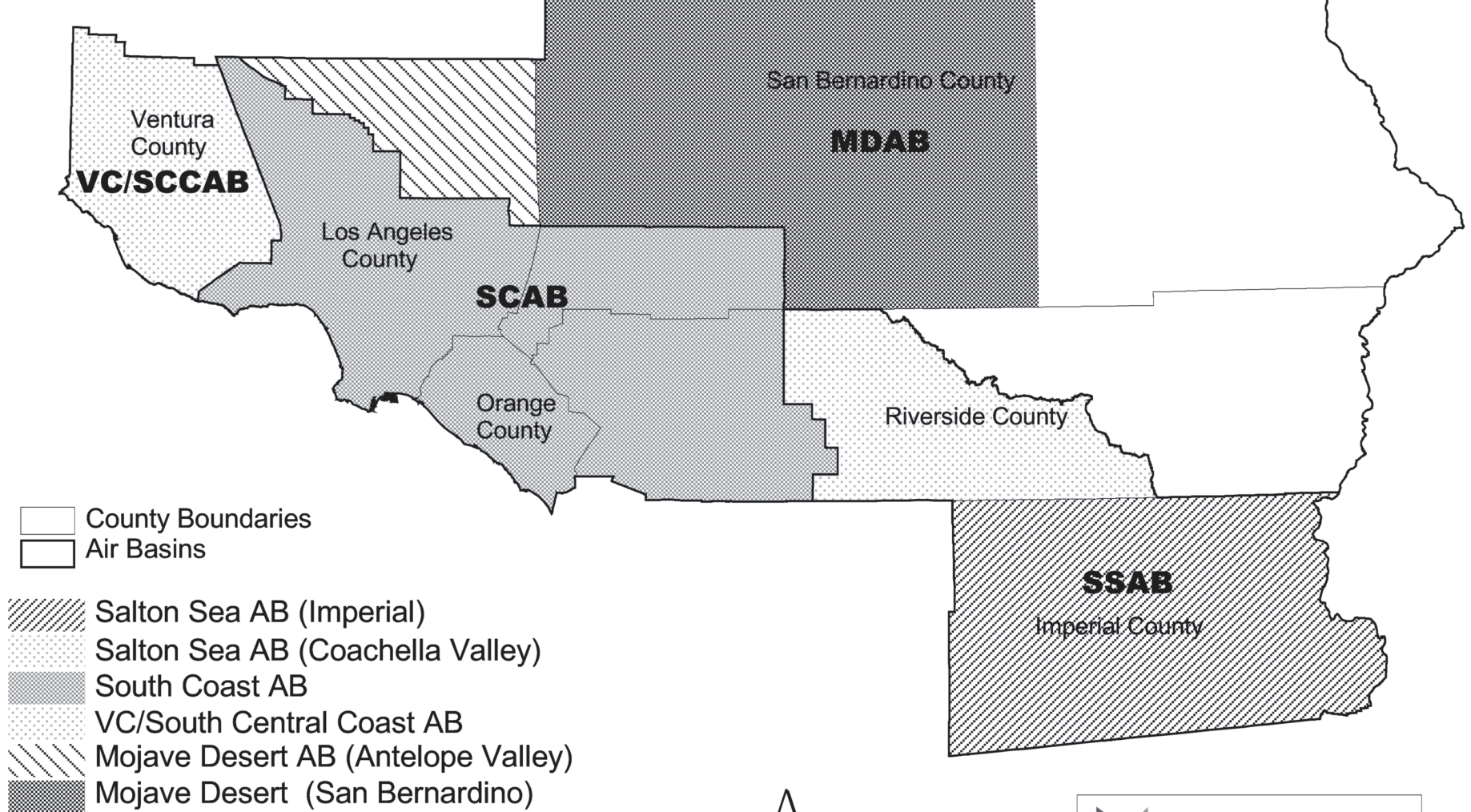


Source: Cal Air Resources Board and Air Districts

Exhibit H-3

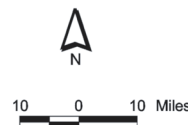
Proposed For Federal Non-attainment Areas in the Region

Ozone
(8-Hr. Standard)



Source: Cal Air Resources Board and Air Districts

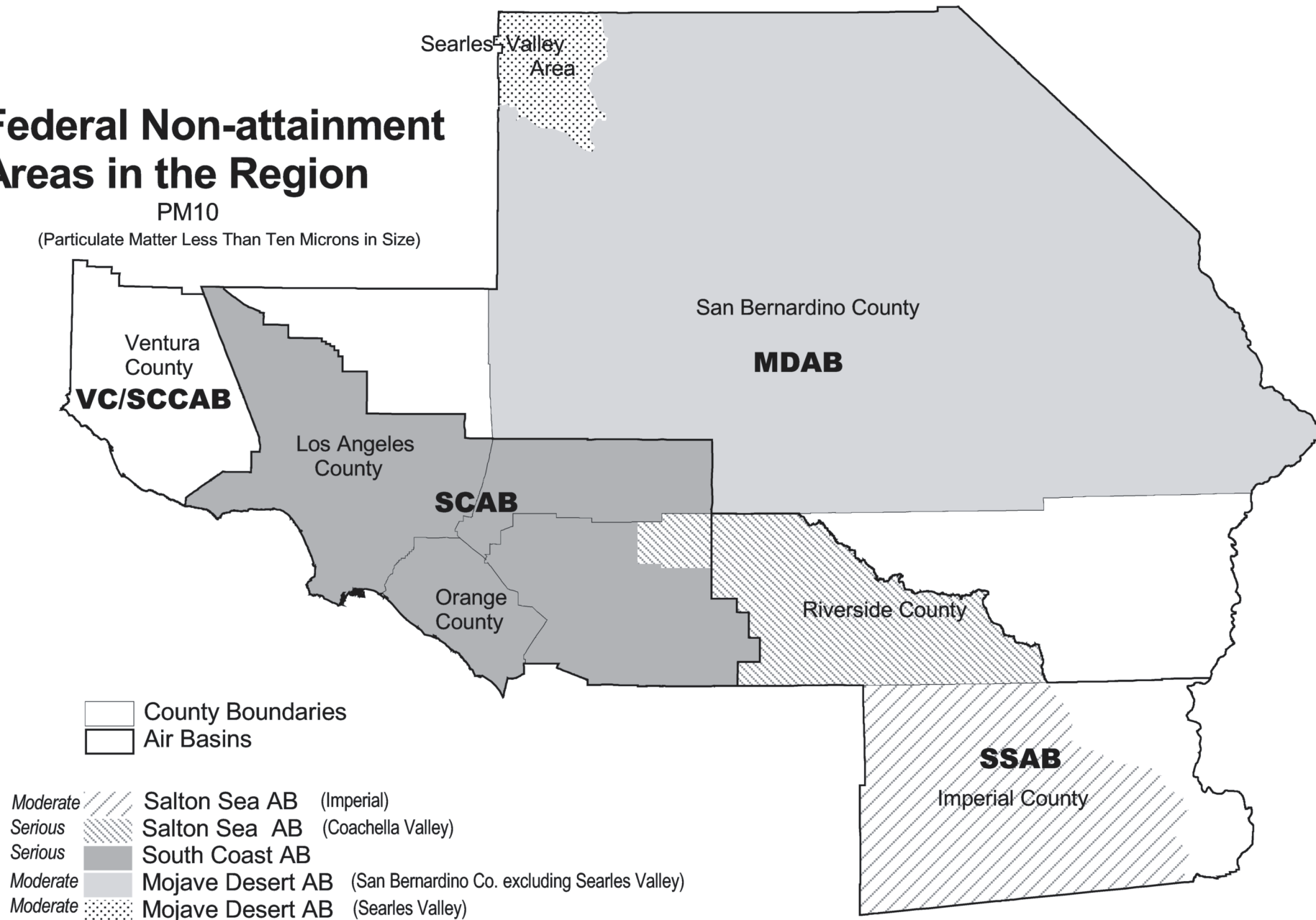
Exhibit H-7



Federal Non-attainment Areas in the Region

PM10

(Particulate Matter Less Than Ten Microns in Size)



County Boundaries
Air Basins

Moderate / Salton Sea AB (Imperial)
 Serious / Salton Sea AB (Coachella Valley)
 Serious / South Coast AB
 Moderate / Mojave Desert AB (San Bernardino Co. excluding Searles Valley)
 Moderate / Mojave Desert AB (Searles Valley)

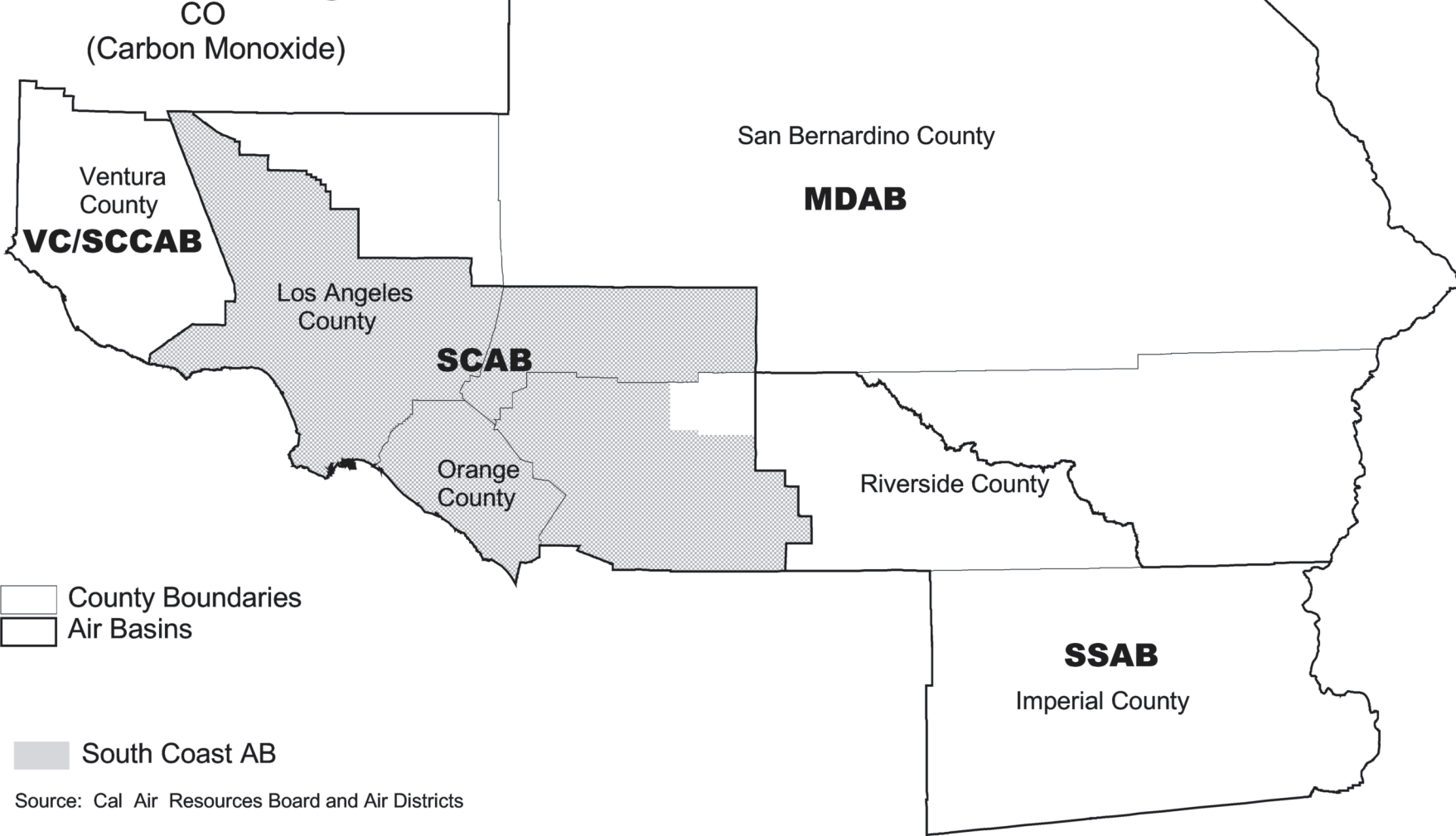
Source: Cal Air Resources Board and Air Districts



10 0 10 Miles

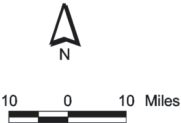
Exhibit H-4

Federal Non-attainment Areas in the Region



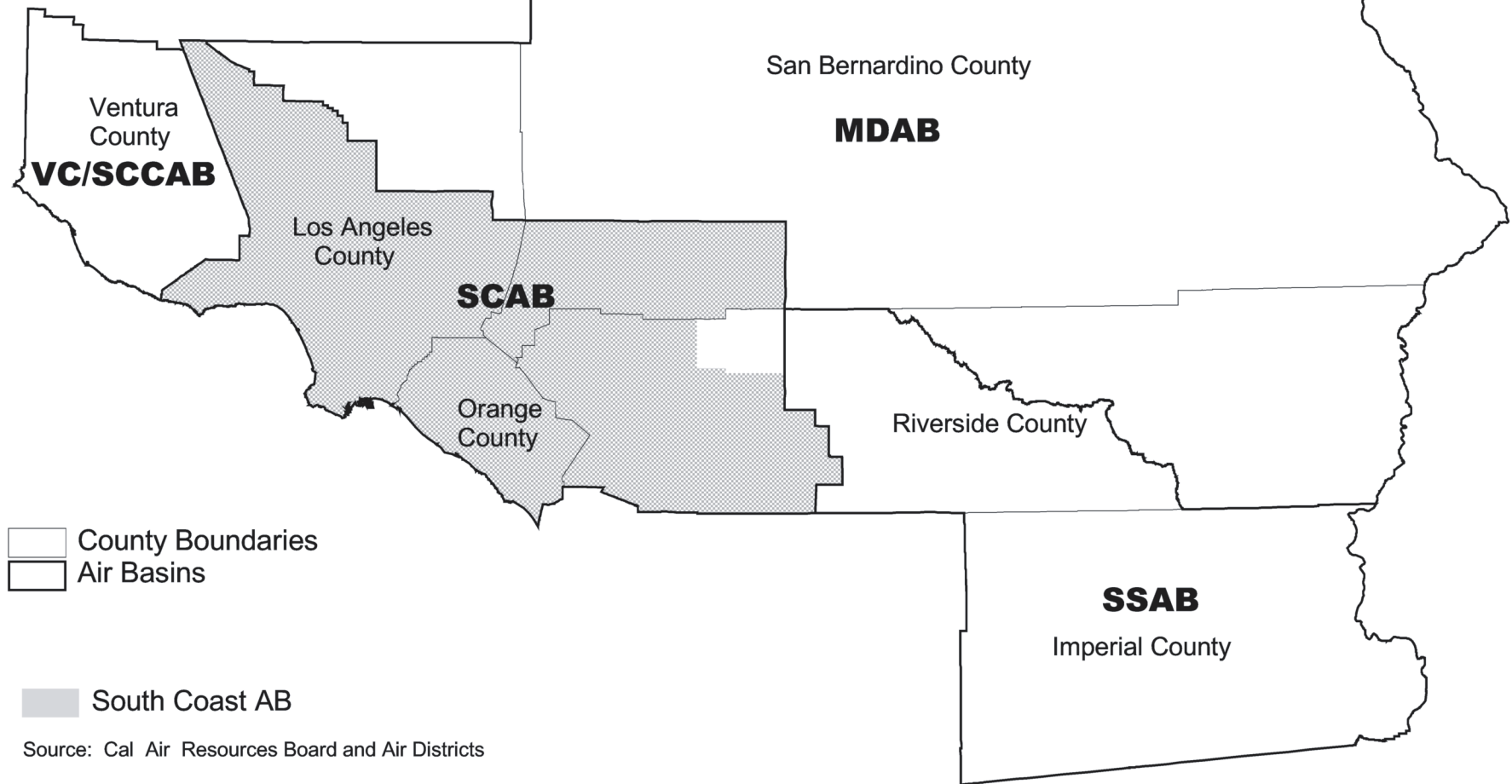
Source: Cal Air Resources Board and Air Districts

Exhibit H-5



Federal Non-attainment Areas in the Region

No_2
(Nitrogen Dioxide)



Source: Cal Air Resources Board and Air Districts

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Exhibit H-6

